

by Matt Higgins

If you aren't racing dirt oval, you're missing out on some of the most thrill-filled, wheel-banging, dirt-slinging racing action there is. RC dirt-oval racing has a long history and enjoyed huge popularity in the early days of RC competition. Now it's on the rise again and in a big way, with a big-time, full-size racing star helping to launch dirt oval back to the status it enjoyed in its glory days. In a surprising move that will no doubt provide an awesome boost to the scene, 2002 NASCAR Nextel Cup champion Tony Stewart has purchased Custom Works—a company that has a legacy of winning races that dates as far back as organized RC dirt-oval racing itself. To help you get a handle on this unique type of racing, I brought together the three main types of specialized dirt oval machines: an Eastern dirt modified car (EDM), a full-fender late model and a winged sprint car. You might be surprised by what's under the hood of these dirt-oval racing machines.

DIRT OVAL:

OUTLAWS OF RC

PHOTOS BY PETE HALL



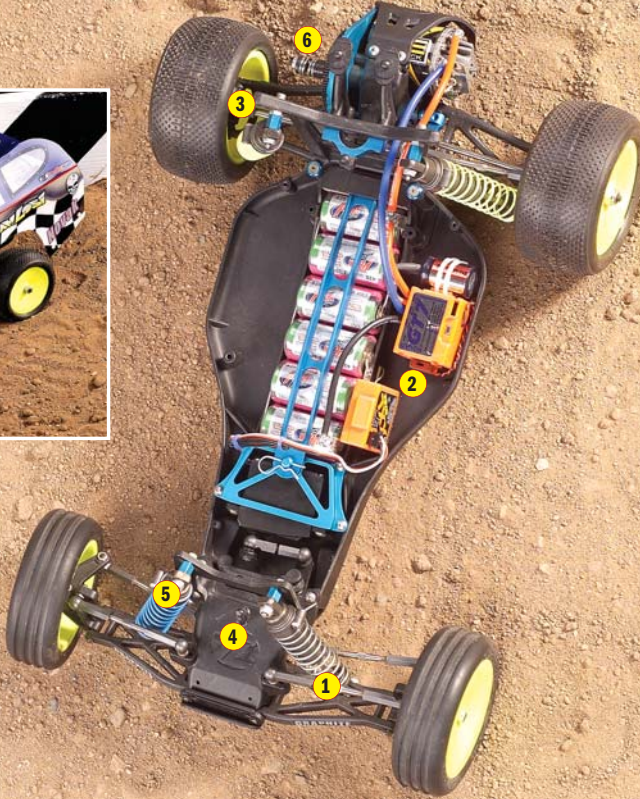
Seriously sideways!



Many EDM racers carefully cut and fold sheet Lexan to make their own bodies, but McAllister Racing makes this far more realistic (and convenient) shell. The side and roof sections are still made out of sheet Lexan, but the inner section is a more traditional vacuum-molded piece. Zegers RC Graffixx whipped up the awesome paint job.

EASTERN DIRT MODIFIED

These wild-looking machines are favorites among current dirt-oval racers, and at some races, their numbers rival those of the sprint cars. With their open-wheel design, serious on-track action is inevitable, and the smaller the track, the more intense and insane the competition gets. My EDM is just a slightly modified Losi Triple-X buggy. Purpose-built dirt-oval chassis are available for this class and so are conversion kits such as the Custom Works Intimidator 10; but on less-than-perfect, bumpy tracks, a converted buggy can more than hold its own and is often the vehicle of choice. At most tracks, they have two classes of EDMs—one for gearbox-equipped cars like our Losi and the Custom Works Intimidator 10 and another class for direct-drive cars like the regular Custom Works Intimidator kit. As in other types of racing, these two classes are further broken down into stock and modified (power) categories.



- 1 CAMBER SETTINGS.** The base setup for the Triple-X is great on any dirt track, including dirt ovals, but because we're only turning left, we can make a few tweaks. The camber on the left front wheel is set at -3 degrees. The tighter the track and the harder the car corners, the more camber you need. The spring at this corner is also the stiffest of the four.
- 2 LEFT BIAS.** Oval cars work better with as much weight on the left side as possible; this is referred to as a "left bias." Although repositioning the battery would work best, I wanted this buggy to be able to return to normal off-road duty, so I just moved the Novak XXL receiver to the left side with GT7 ESC and left the pack centered on the chassis.
- 3 REAR STEER.** I race this EDM on a very small, tight track. To help it get around the corners, I dialed in "rear steer." To do this, I left the rear hub in its most rearward position and the right rear hub in the middle position. If I want the car to come around even more aggressively, I'll move the right rear hub all the way forward. Another way to get more aggressive steering is to set the car up with 1 or 2 degrees of toe-out. This makes the car less stable going down the straight, but it will turn into corners with much more authority.
- 4 BODY MOUNTS.** With a little creative trimming, the McAllister EDM body fits the Losi's stock body mounts perfectly. The rear of the body clips to the wing mount, and the front slips underneath the shock tower and onto the front body mount.
- 5 RIDE HEIGHT.** This EDM sees action on a relatively rough, tight track. If your track is smooth, you can try slamming the car down any number of ways. The best and, unfortunately, the most time-consuming method is to insert spacers inside the shock and on the shock shaft below the piston. You can also lay the shocks down by using the outermost holes on the arms and the innermost holes on the shock tower, but this will affect the car's handling. Many racers fabricate new shock towers and use touring-car-size shocks or front buggy shocks all the way around.
- 6 SLIPPER SETUP.** To improve the Triple-X's acceleration out of the corners, tighten the slipper almost completely. Racers often run without any slipper on tracks that offer consistently high traction.



Zegers RC Grafixx was again called into action, and I chose another body from McAllister Racing—the Hagerstown late model. Another good shell that's worth checking out is Parma's Oval Outlaw. Both bodies are 200mm and fit gas and electric touring cars. If traction is lacking, a Lexan side dam can be added as long as the car's overall height doesn't exceed 11 inches (says ROAR rules).

LATE MODEL

This is the real surprise of the group. My late-model car is a Factory Team TC3 with Associated's rally car conversion. The result is a completely tricked out and dialed late model. You could opt for a purpose-built car, but this late-model setup gives up nothing to the competition. With its sealed drive train and durable shaft drive, it's a natural. The rally conversion stretches the TC3 out to a 200mm-wide stance, and the longer shock shafts bump up the suspension travel. If you want to race in the late-model class, this is the setup you need to find victory lane, but even a standard TC3 can work well: just unscrew each shock eye a few turns to increase suspension travel for the bumpy sections.

- 1 DIRT SHIELDS.** With all four wheels going, this late model tosses a serious amount of dirt around. To keep as much of it out of the car as possible, I taped a Lexan shield to the left side of the chassis. Another small shield in front of the on/off switch prevents it from getting fouled with dirt. Also note that the switch is mounted in the far right/rear corner and as far away from the flying stuff as possible. I dressed up the Lexan with carbon-fiber sticker material from XXX-Main Racing.
- 2 SPEEDO.** With its Adjustable Power Control (APC), the LRP Quantum Pro Sport is the perfect choice for this dirt-oval machine. Just as in full-size dirt-oval racing, track conditions can change drastically during a night of racing; the previous round's traction can vanish and leave your car

spinning out in the corners. Before I take to the drivers' stand for my Main, I take one hot lap, and then, if I need to, I quickly adjust the APC with a turn of a screwdriver. More than once, this speedo made the difference between holding my own and barely holding on.

- 3 MORE MOTOR.** Full-on mod motors have been the hot ticket for 4WD dirt oval cars, but their speeds are a little over the top for most tracks. Stock motors are fine, but these cars can handle more power. The new crop of 19-tum motors provides the perfect balance. I selected the new Reedy Spec 19, which, with its cool flame motif, won me over on looks alone. Reedy's new mill has laydown brushes, Quad-mag technology, adjustable timing, ball bearings and more than enough power to get this car sideways.

- 4 CUT TIRES.** The tires of choice for the late model are foams from Trinity's TRC line. TRC includes self-adhesive sidewall protectors that really help these soft tires to withstand the abuse that dirt tracks dish out. In front, I went with 26mm-wide tires, and in the rear, 28mm tires. If the car pushes, I might put a 26mm tire on the left rear. To increase forward bite, I used a sharp hobby knife to cut slashes across each tire.

- 5 SETUP TRICKS.** Like most oval cars, the late model works well with a stiff right front spring. It prevents the front from digging in too much during hard cornering. To help the car come off the corners well and not push into the wall, I use a soft left front spring. If the car still pushes, I install a stiffer right rear spring. I set right front camber at -5 degrees and the right rear at -2 degrees. On the

left side (front and rear), I almost always start with zero camber and dial in positive camber, according to how the tires are wearing. If the insides of the tires wear faster than the outsides, I dial in 1 or 2 degrees of camber.

- 6 TWO DIFFS.** Both of the gearboxes on this TC3 are equipped with ball differentials, but many other setups are possible. In addition to the obvious front-one-way setup, try a spool in front, or, for ballistic acceleration, bolt a spool into the rear diff and use a one-way in front.



LATE MODEL



The Enforcer's body comes in pieces that, when assembled, make for one slick-looking, realistic sprinter. The two side panels have header-pipe details, and the left side has a molded-in starter motor. Zegers RC Grafixx did the painting, and I added the popular Custom Works Speedway hood to increase front downforce. Custom Works offers a ton of other cool bodies you can check out on its website.

SPRINTER CAR

Sprinters are the quintessential dirt-oval cars; with their open-wheel design and huge wings, they just scream "Action!" Here's a Custom Works Pro Comp Enforcer chassis that has probably won more RC sprint car races than all the other designs put together. This direct-drive car is an absolute rocket. Though direct drive is more common, there are also classes for gearbox-equipped sprinters. Custom Works offers a conversion called "Enforcer 10" that will convert an old-style RC10 into a sprinter; but that setup is now out of date and is being replaced by a new gearbox kit—the Enforcer GBX—that's based on the much more current Team Associated B3. This new car will be offered as a complete kit and not as a conversion. For EDM fans, an Intimidator GBX will also soon be on hobby-shop shelves.



- 1 THE CAGE.** The Enforcer has a sturdy nylon roll cage that is mounted on a flat graphite chassis. I dyed the cage pieces black using Rit clothing dye (we keep finding more RC uses for this!). The cage arrives in several pieces, and the completed setup is relatively strong, but resist the temptation to crank all of the hardware down extra tight because if you do, you'll risk breaking it or tweaking the chassis. A wrap of electricians' tape hides the metal tumblers that connect the tail section to the main cage.
- 2 FAST FOAMS.** I set the Enforcer up with foam tires, which are generally the hot setup at most tracks. Foam tires offer tons of grip and weigh less than rubber tires. The reduction in rotational mass is instantly noticeable on the track. The tires' tread pattern further increases traction, and Custom Works offers tires in a variety of compounds. The stick-on wheel discs really finish off the rims and give them a real dirt-oval look. The front wheels spin on supersmooth ball bearings.
- 3 MOTOR AND BATTERIES.** Sprint cars are well known for being over-powered, and this sprinter lives up to that reputation with a Team Orion dyno-tuned Core Stock RS motor and some very nasty Peak Racing PowerFlo batteries. The voltage on these things is just incredible. To keep the front wheels on terra firma at least some of the time, the Enforcer's motor is mounted in front of the rear wheels in the mid-chassis position.
- 4 4-WHEEL INDEPENDENT SUSPENSION.** Unlike a full-size sprint car, the Custom Works car has 4-wheel independent suspension. A solid rear axle might have been more true to scale, but the Enforcer is a racing machine more than a model, and out on the track, the design speaks for itself. Aluminum, threaded-body shocks are at each corner; Custom Works' new GBX cars will feature larger touring-car-size shocks.
- 5 PRECISION STEERING SYSTEM.** Instead of the bell-crank setup used in many RC cars, the Enforcer has a rack and sliding arm system that is slop free and, as a result, very precise. Since there isn't a servo-saver, I added a Kimbrough unit to the servo. Up front, I can adjust caster by switching mounts. The range of adjustment is from 15 to 25 degrees in 5-degree increments. If you have a hard time keeping a handle on the car while it's going down the straight, try 25 degrees of caster. Just keep in mind that this sprinter will really push coming off the corners.
- 6 DIRECT DRIVE.** The Enforcer's direct-drive system is super-efficient and incredibly fast. The diff accepts standard spur gears, and you can use 48- or 64-pitch gears. The motor is mounted in front of the rear axles on a machined-aluminum mount, and the two sides of the diff housing have the shock and suspension arm mounts machined in. The fit and finish on these and all Custom Works pieces are truly first-rate.

SPRINTER CAR



Gettin' sideways

You've seen the hardware. Are you ready to go racing? Here are some hot sites to satisfy your dirt-oval jones until Sunday.



DirtOval.com: this is the premier site for dirt-oval dudes; it covers a comprehensive list of subjects, and its message board sees a lot of traffic. There is also a great link to other dirt-oval links that are worth checking out.



RC Car Action.com: in addition to links to all the sites described here, you'll find a complete track directory to help you find a dirt oval track near you.



McAllisterRacing.com: no company is more committed to dirt-oval bodywork than McAllister. From late models to sprint cars, they're all here.



Worldofoutlawsracing.com: this is the official site of the World of Outlaws series. If you want inspiration for your sprinter, check out this site devoted to the full-size racecars.

CONCLUSION

If you want to do something fast, fun and different with RC, get into dirt oval. No dirt oval nearby? No problem. A dirt-oval track can be incorporated into almost any off-road track. You don't have a specialized dirt-oval car? You don't need one. If you have an off-road car and can turn left, you can race dirt oval (but once you get hooked, you're sure to build a left-turn-only rig). So now there's no excuse; see you at the track, and get sideways!

SOURCES

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